

Sheffield Teaching Hospitals NHS Foundation Trust

Pharmacy Services Research Strategy 2015/2016

1. Introduction

As recently as five years ago, the pharmacy directorate's research activity was almost entirely focused on the provision of clinical trials medication. Pharmacy already had extensive experience of managing clinical trials medication and improvements to our staffing infrastructure agreed with R&D and supported by the CLRN allowed the department to build on this and provide more responsive high quality support to other directorates' research programs.

However, the fact that no pharmacy directorate research programme or strategy existed was recognised as a significant deficiency and pharmacy staff trained in research methodology were not given the opportunity to develop into competent independent researchers. Pharmacy had limited research and publication experience based on a few individuals, with pharmacy practice research undertaken primarily as part of a post-graduate degree based on the interest of the individual.

Despite the challenges, pharmacy has made significant progress, as detailed below, and we have established new research links (to supplement the existing clinical teaching relationships) with our neighbouring Schools of Pharmacy at the Universities of Bradford and Huddersfield, other NHS Trusts and the Clinical Lead for Medicines at the Yorkshire & Humber Academic Health Science Network. All of this contributes to our long-term aim of establishing a community of research-active individuals and organisations across Y&H to foster and coordinate translational research in the field of Medicines Optimisation.

Medicines, used to best effect, benefit both patients and the NHS but all too often medicines use is sub-optimal, leading to lost benefit and preventable harm and waste. Medicines Optimisation brings together the concepts of patient centred care, self-management, shared decision-making and evidence based medicine. It aims to improve our patients' experience of healthcare and their health outcomes. More could be done to shift the prevailing paradigm of 'medicines management' to one of 'medicines optimisation'. Medicines optimisation research is a small but growing activity regionally and nationally, and needs more effective academic and health service collaboration.

2. Current Research Strengths and Infrastructure

Members of the Directorate have presented research findings at international conferences and published 33 articles since 2009 including publications in high-impact international clinical research journals.

Current areas of interest and strength include medicines reconciliation, quality of patient information, medicines optimisation in critical care, treatment of pulmonary hypertension, parenteral nutrition and palliative care. (See section 4 for all research themes.)

The department has considerable expertise in managing Investigational Medicinal Products (IMPs) for STH Principal Investigators (PI). Any of these studies, single or multi-centre, involving IMPs would not be possible without the expertise of the Pharmacy Department. This can include over 200 studies at any time and comprises knowledge of clinical trials legislation and regulatory requirements for research and sourcing of pharmaceutical products.

Clinical Trials Pharmacy staff work closely with colleagues in the Clinical Research Office (CRO), the Clinical Research Facility (CRF) and many research-active directorates in STH.

The Directorate has established a Pharmacy Research Executive (PRE) that meets on a quarterly basis and includes the Chief Pharmacist and Research Lead, Senior Pharmacy Managers, research-active Consultant pharmacists and representatives from the Clinical Research Office. The PRE oversees the setting up of research studies within the Directorate in order to ensure that research activity fits with the research strategy, is feasible and appropriately funded.

3. Future Strategy

3.1 Activity and Infrastructure

The quality and scope of the clinical pharmacy service provided by pharmacists and medicines management technicians is increasingly recognised across the Trust. It is vital that this growth and development continues; however in order to ensure long-term success of the clinical service within the Directorate, research must be prioritised and become embedded within our culture.

The Directorate has an increasing number of clinical staff conducting part-time research projects across a diverse range of clinical areas. Postgraduate students from the School of Pharmacy at the University of Bradford participate in research projects within the Directorate as part of MPharm courses. Two Doctoral research Fellows have been recently appointed to undertake full-time clinical PhDs in collaboration with the University of Bradford's School of Pharmacy. The PhD posts will play a vital role in developing the department's research profile and increasing our outputs. These outputs will be measured via the Trust performance operating framework (POF).

As the department continues to develop pharmacists through advanced practice and to Doctoral/Consultant level so the numbers participating in research grow. It is vital that these post holders are mentored and supported post-doc in order that their acquired skills are utilised appropriately and they continue conducting research studies. Utilising their expertise and experience will be key to inspiring other pharmacists to become research active.

To help meet these demands, a Research Coordinator supporting Directorate investigators to develop research protocols, obtaining ethical, regulatory, PRE and STH R&D approval for studies is essential. The Research Coordinator identifies and circulates research opportunities and monitors study progress and recruitment to keep the PRE informed of activity so that problems can be identified early and addressed if possible. Ongoing funding will be required to support this post in the long-term; however support is already available from the CRO.

In the longer term, the anticipated increase in grant applications would need support. Specific expertise to maximise the chance of success, write grants, monitor costs, budgets and accruals has potential to pay dividends. It is well documented that over two thirds of NIHR fellowships from first-time applicants are declined. Staff with experience of successful applications to facilitate and optimise submissions for funding would be a significant benefit to the pharmacy research infrastructure. Such posts are already in existence elsewhere in the trust and may not necessarily have a pharmacy background. Identifying funding for such sessions may not be necessary immediately but in time would be found from research grants as the department improves its' profile.

The key aim in the long-term strategy of the Directorate is to increase research income and consequently research capacity and activity. This will be achieved by supporting all research-active staff to:

- develop and submit more successful grant applications to NIHR Portfolio grant funders (i.e. NIHR and Medical Research Council) and work with academic and NHS collaborators to recruit to NIHR Portfolio studies led by other Universities/NHS Trusts. Although critically important, it is acknowledged that this is a long-term aim.
- continue to undertake non-portfolio studies by attracting grants from alternative sources, charities etc.
- nurture existing successful relationships, and creating new partnerships, with Industry to undertake and successfully deliver on industry-sponsored clinical research within the Directorate
- increase the number of original research articles published in high-impact journals.

3.2 Way Forward

3.2.1 Links with academia and fellowship opportunities

It is important that a positive, collaborative atmosphere between the Directorate, other directorates (including Critical Care, Emergency Medicine, Neurosciences and Nutrition, as well as Primary Care) and the Universities of Bradford, Huddersfield, Sheffield (including SchARR) and Sheffield Hallam are promoted. The research strategy and feedback from the PRE must be a standing item for Principal Pharmacist meetings on a quarterly basis.

Ensuring we benefit from any opportunities arising from the Yorkshire and Humber Academic Health Sciences Network will be important. As one of the largest teaching hospitals in the region, we need to be in a position to access support and contribute to multi-centre pharmacy research.

Staff will be given the opportunity, support and encouragement to apply for research funding awards including, but not only, NIHR clinical research fellowships and internship awards. Whilst NIHR grants are the ultimate ambition, applications for these will not be successful without good quality preparation via smaller pilot studies and the presentations & publications generated thereof. Leading this level of research project is essential in the short-term.

There is ongoing progress regionally and nationally in the field of Medicines Optimisation (MO);

- The MO CRG has been established
- MO Research Group (MORG) at the University of Bradford is academically linked with our department through the PhD posts.
- MO Health Academic Translational Research Community is in the developmental stage across Yorkshire and Humber.

These provide the pharmacy directorate with a framework for research activities, the potential for multi-centre networks but most importantly add rigour and academic weight to grant/funding applications.

3.2.2 Further embedding research into the clinical framework, including governance

Many investigators feel they have inadequate time to conduct research despite a desire to do so and so it is intended to source funding via grant applications and career development awards. Additional resources for investigator's research PAs would enable them to conduct

NIHR Portfolio (or similar) research studies. The PRE will also support investigators who wish to apply for funding to support extra research time in job plans by discussing research ideas, encouraging development of these, and reviewing grant applications. Good clinical practice training sessions have been arranged for investigators and will continue to be arranged in order to ensure compliance with research governance requirements.

3.2.3 Combining clinical research with clinical need

There is a need to balance the conflict of delivering of clinical research with meeting the needs of the clinical service. Only the three consultant pharmacists currently have research PAs built into their job plans. Of these, research time is regularly sacrificed to perform clinical or departmental duties. Although the full-time Doctoral Training Fellows will potentially increase the research outputs of conference presentation and publications, they will contribute little to front-line clinical services.

There is a need for Pharmacy Management Board (PMB) and in particular the clinical Principal Pharmacists to engage with a cultural shift towards research activities. It is anticipated that the appetite from individuals to undertake service evaluations / research could be met if regular structured research time was included in the working week of the band 6, 7 and 8 pharmacists. Performance in this protected time could be easily measured against metrics already employed elsewhere in STH by those given time to participate in research. It is important to note that increasing the uptake of research activities could potentially impact on operational KPIs.

3.2.4 Communication and publicity

The Directorate will seek to publicise through the media any successes in research income or output and will work with the STH Communication team to achieve this goal. Posters, publications and other dissemination will be shared with peers either through on-going educational meetings and billboards.

4. Research Themes

1. Pharmaceutical management in critical care

Including: Monitoring Anti Xa levels on anticoagulation, Regulation of Potassium levels, Analgesia, Delirium, Sleep and Independent prescribing.

2. Pulmonary Vascular Diseases

Including registry studies, Catheter-related line sepsis on IV treatment and Treatment of Pulmonary hypertension associated with connective tissue disease.

3. Medicines optimisation

Including Medicines reconciliation, quality of information transfer at discharge

4. Neurosciences

Pharmacists practicing in neuroscience defining and developing their specialist role

5. Nutrition

Role of the Pharmacist in prescribing adult total parenteral nutrition.

Research Aim and Objectives for 2015/2016

The key aim in the future strategy of the Directorate is to increase research income, and consequently research capacity and activity.

To achieve this aim, the research objectives for 2015/2016 are for the Directorate to:

1. Increase the number of research-active staff through fellowships and involvement in industry-sponsored studies. Our aim is to submit one career development award to NIHR in the next 18 months.
2. Nurture any existing successful (local or trust-wide) relationships with Industry and create new partnerships involving different Directorate investigators, to undertake more and successfully deliver to time and target on industry-sponsored clinical research within the Directorate
3. Identify how to reduce the impact of operational pressures on protected time for current researchers/investigators
4. Increase the number of abstracts accepted by national and international conferences.
5. Increase the number of original research articles published in high-impact journals by Directorate researchers
6. Increase the number of publications in professional journals; for example service evaluation and audit dissemination.
7. Increase clinical pharmacists' understanding of research through involvement in clinical trials and local research speciality groups in their directorate. This will be assisted by the addition of research skills training to the ongoing Senior Pharmacist Training Programme.